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| Student Details | | | | |
| Family Name: | Soto | | | |
| Given Name: | Gonzalo | | | |
| Subject Details | | | | |
| Qualification: |  | | | |
| Unit Code and Title: | ICTTEN516 – Produce technical solutions from business specifications | | | |
| Trainers’ Name: |  | | | |
| Assignment Details | | | | |
| Due Date: |  | Assessment No:  (If applicable) | |  |
| Date Submitted: |  | | | |
| Checklist | | | | |
| * I have kept a copy of my assignment before submitting * I have completed and signed this page * I have answered all questions in the assignment * I have attached any relevant evidence/documentation, as required for the assessment | | | | |
| Declaration | | | | |
| I have been advised of the assessment requirements and have been made aware of my rights and responsibilities as an assessment candidate.  I declare that, to the best of my knowledge and belief, this assignment is my own work, all sources have been properly acknowledged, and the assignment contains no plagiarism. This assignment or any part thereof has not previously been submitted for assessment **at this or any other RTO**. | | | | |
| Student’s signature: | | | Date: | |

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| **Assessment Feedback** | | | | |
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| **Result** | **Satisfactory** | **Not Satisfactory** | **RPL** | **RCC** |
| **NYC – New assessment date scheduled or FIR – Further information Required** | | | **Date:** | |
| Trainers/Assessors signature: | | | Date: | |
| **Student Comments** | | | | |
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| * I have received my assessment result and am satisfied with the feedback given on this assessment | | | | |
| Student’s signature: | | | Date: | |

Questions:

1.1

Obtain business needs often be documented in the business requirements document or report. The processes and procedures will need to be acquire to form part of the technical requirements.

Identifying business needs involves:

* Clarifying the business problem
* Identifying the vision or strategic mission
* Identifying stakeholders
* Documentation

1.2

Write brief summary of business needs involves: clarifying the business problem, identifying the vision or strategic mission, identifying stakeholders and related documentation

**Clarifying the Business Problem**

Before translating business needs into technical requirements the business problem or opportunity must be established.

**Identifying the Vision or Strategic Mission**

Business needs that have been identified should align with the vision or strategic mission of the business.

**Identifying Stakeholders**

In order to document the technical requirements key stakeholders within the business and stakeholders external to the business must be identified.

**Documentation**

Technical requirement reports vary significantly in content and there is not a definitive template for writing the report.

1.3

Identify input/output requirements, interface requirements and process requirements. For example hardware or software upgrade, network installation, inventory management and e-commerce solution.

Business requirements and specification documentation can refer to the project documentation such as the Requirements Report or documentation which is included as part of the system, such as user guides. The resource packs Business Requirements and Technical Requirements discussed the Requirements Report in detail. Other types of documentation that may be part of the project deliverables include:

* Readme's
* Frequently asked questions (FAQ's)
* User manuals
* Technical manuals

1.4

It's necessary to look at the technical requirements in three main of input/output requirements, interface requirements and process requirements.

A technical specification may differ because different types of technical problems may produce drastically different levels of detail in different document structures potentially based on role of the person who wrote the technical specification and type of problem.In particular, the technical specification for an application that is going to be written from scratch would be vastly more detailed than the technical specification around a feature change.

A technical specification (sometimes called, “system requirement”) “expresses at the appropriate level of detail how an automated component of the system will behave or what it will produce in order for the system to deliver what the business system needs”. To achieve the appropriate level of detail and to enable a semblance of complete coverage of each area, we further divide both business and system requirements into categories.

2.1

Review and assess business problems, opportunities and objectives in three main areas.

To assess the problem or opportunity faced by a business it is necessary to look at the technical requirements in three main areas. These are:

* Input/Output Requirements
* Interface Requirements
* Process or Quality Requirements

2.2

You need to now determine input and output requirements of the proposed system that include interaction with supplier's, customer's, users and internal systems.

* Interaction with supplier's computer systems
* Interaction with customer's computer systems
* Interaction with users (customers)
* Interaction with internal systems

2.3

Analyse technical requirements of proposed system that will include internet, automation of processes and hardware configuration, network speed and security, software compatibility etc.

* Internet connection
* Cron Jobs
* API
* CentOS hosted in Datacenter
* 2GB Ram
* Intel XEON

2.4

Build interface consider an e-commerce solution that capture data regarding transactions and match accounting and sales requirements.

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| Figure 1 - Interface |

2.5

Investigate processes for interface methods to identify interface options based on data flow i.e. data from one system to another.

* Product entry
* Sales report
* Purchase order
* Delivery voucher

2.6

Produce an evaluation document that include: performance or speed of the system, quality, environment requirements or business rules, size, ease of use, reliability, robustness and portability.

Evaluation Report

* **Performance**
  + The system must be able to handle at least 1000 transactions per second.
* **Quality**
  + The code must be written using a design pattern. MVC is recommended.
* **Environmental requirements**
  + The system must be able to handle a whole workflow of online purchases.
* **Size**
  + The database must be able to handle at least 10.000 products with categories and subcategories.
* **Ease of use**
  + User experience must be concise with big e commerce sites such as Amazon
* **Reliability**
  + Transactions must be backed up daily for reconciliations report.
* **Robustness**
  + The server must be secure, this includes data, transactions and network.
* **Portability**
  + The whole source code must stored in private repository for further migrations.

3.1

After assessment of business problem now develop the "solution" that is just a description, model or prototype of the solution.

The solution will allow users to purchase products from a list of categories updated by an administrator.

3.2

You need to determine the cost of business solution based on requirements determination. Then cost and initial solution will then be presented to the client for feedback.

The cost of this solution is AUD $3.000. This includes:

* Domain name
* Server
* Source code
* Training

3.3

To use modeling techniques investigate systems hardware, network infrastructure, operating's system, application architecture, internal/external interface requirements/protocols, the development tools and industry standards or guidelines.

The solution will rely on PHP and Javascript as main languages. The database will be MariaDB and PDO will be used as abstraction layer.

The whole solution will be hosted in a datacenter using a VPS running CentOS.

The UML is as follows

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| Figure 2 – UML Diagram |

3.4

The purpose of the report document is to communicate and confirm the requirements. Defines the areas that the new system will improve and any topic that may impact on the project.

The document provides a business analysis with recommendations for improvements. It also describes the scope, how is it going to be implemented and which integration and cron jobs will be provided. Also a training program will be scheduled and the description of the SDLC using Agile.

4.1

This last of involves validation of requirements, evaluation of requirements. The client checks it to ensure it meets expectations and provides feedback accordingly.

After client’s review feedback is expected.

4.2

Depending on feedback changes may need to be incorporated into the requirements definition and so on until agreement is reached.

The feedback provided by the client is analysed to decide whether is added to the list of requirements or not. If not, an explanation must be provided.

4.3

Document the evidence of changes incorporated as per client feedback and prepare final report for agreement.

Once all the requirements are fully agreed a document is expected to be sign-off in order to start the development cycle.

4.4

Obtained client sign off on the developed requirement document that provides a formal agreement between the client and the developer of the system.

After the initial technical requirements document is developed, the client checks it to ensure it meets expectations and provides feedback accordingly. Depending on the feedback, changes may need to be incorporated into the requirements definition and so on until agreement is reached.

Reference

[Please put down any reference book/link here.]

**Pressman | Software Engineering – A practitioner's approach 3rd edition**

**Podeswa | UML for the Business Analyst 2nd Edition**

**http://uniinstitute.com.au/ica50615/**